chemotherapy with rituximab, carmustine, etoposide, cytarabine and melphalan. **Adjuvant immunotherapy** consisted of rituximab 375 mg/M^2 IV weekly and sargramostim 250 ug s.c. TIW during weeks 5 to 8 and 24 to 27 post transplant.
Results: Seven patients had successful mobilization (mean CD34/kg collected 12.5E6 and infused 9E6) and underwent transplant. Median time to neutrophil and platelet engraftment was 9 and 10 days respectively. Six patients are alive with no evidence of disease from 3 to 18 months post transplant. One patient relapsed at 11 months. 4/4 patients receiving at least once cycle of adjuvant immunotherapy developed grade 1 to 4 neutropenia from 3 to 34 weeks post adjuvant rituximab. Neutrophil counts recovered following treatment with G-CSF, but recurred in all 4 patients without additional exposure to rituximab. One patient who had engrafted platelets developed grade 2 thrombocytopenia on day 33 post transplant. Platelets spontaneously recovered.
Conclusions: Delayed-onset neutropenia is a known complication of rituximab. The incidence may be higher when rituximab is used following ASCT. It is not clear if the timing of rituximab administration post transplant or the concomitant use of sargramostim contributed to the high incidence of delayed neutropenia in this study. Larger studies and longer followup will be needed to determine if adjuvant immunotherapy decreases relapse.

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CONSOLIDATION THERAPY FOLLOWING AUTOLOGOUS STEM CELL TRANSPLANTATION FOR NON-HODGKINS AND HODGKINS LYMPHOMAS

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Purpose: To determine whether autologous stem-cell transplantation (ASCT) followed by consolidation with Rituximab or irradiation is superior to ASCT alone in adults with advanced or relapsed lymphoma.
Patients and Methods: Fourteen consecutive lymphoma patients were entered onto this prospective, single center, phase II study. Seventeen previously transplanted patients were used as historical controls with continuous follow-up. Patients with non-Hodgkin's lymphoma (NHL, n = 11) or Hodgkin's disease (HD, n = 3) received ASCT followed by consolidation with Rituximab (375 mg/m2/week x4, every 6 months x5) or irradiation (20-30 Gy) respectively.
Results: Age, diagnosis (NHL vs. HD), B symptoms, risk factors, LDH, previous treatment response and histological type were well balanced between the two groups. With a median follow-up of 21.3 months, the 30-month relapse rate was 23% and 53% (P = 0.045), disease-free survival was 70% and 41% (P = 0.03) and overall survival was 73% and 47% (P = 0.07) for the consolidation group and historical controls, respectively. A multivariate analysis showed that age ≥ 55 and abnormal pre-transplant LDH were predictors of poor outcome. When NHL patients were analyzed separately (n = 24), 30-month relapse rate was 27% and 63% (P = 0.08), disease free survival was 73% and 47% (P = 0.05) and overall survival was 70% and 40% (P = 0.06) for consolidation and control arms, respectively.
Conclusion: The use of ASCT followed by consolidation using Rituximab (NHL) or irradiation (HD) in adults with advanced lymphoma showed a markedly decreased relapse rate and improved disease free and overall survival compared with conventional ASCT. The NHL subgroup (Rituximab) also demonstrated that consolidation produced a marked advantage.

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COMBINED AMIFOSTINE AND CRYOTHERAPY FOR PREVENTION OF ORAL MUCOSITIS (OM) FOLLOWING HIGH DOSE CHEMOTHERAPY WITH MELPHALAN AND AUTOLOGOUS HEMATOPOIETIC CELL TRANSPLANT (HCT) FOR MULTIPLE MYELOMA (MM)

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OM is a major cause of morbidity following autologous HCT for MM. Amifostine is a free radical scavenger that reduces proinflammatory cytokine production. Cryotherapy causes vasoconstriction of vessels in the oral cavity. Randomized controlled trials have demonstrated a significant reduction in the severity and duration of OM when amifostine or cryotherapy is administered with high dose melphalan prior autologous HCT for MM. To date, no report has been made of outcomes when both treatments are used concurrently.

We performed 28 autologous HCTs on 21 patients with MM in an outpatient setting. Patients received amifostine 740 mg/m^2 24 hours prior to and immediately prior to melphalan (200 mg/m^2 for 19 patients and 140 mg/m^2 for 2 patients; dose dependent on renal function). Cryotherapy was administered for four hours beginning 30 minutes prior to the administration of melphalan. Six patients had a decline in systolic blood pressure of ≥ 20% of baseline following the administration of amifostine. Aggressive intravenous hydration and Trendeleberg positioning resulted in the rapid return to baseline blood pressure in all cases. Prehydration and holding antihypertensive medications for 24 hours prior to the first dose of amifostine reduced symptomatic hypotension.

No patient was admitted for OM. The one patient who required both total parenteral nutrition and narcotic analgesics for grade III OM did not remove his dentures during cryotherapy. One patient experienced grade II OM that was managed with oral narcotic analgesics. The remaining 19 patients experiencing either grade I (n = 1) or no (n = 18) OM. Combined amifostine and cryotherapy is a well-tolerated and effective method of reducing OM following high dose melphalan and autologous HCT for MM.

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AUTOLOGOUS STEM CELL TRANSPLANTATION IN PATIENTS WITH REFRACTORY OR RELAPSED HODGKIN DISEASE IN COLOMBIA

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Objectives: The aim of this study is to report outcomes of patients with Hodgkin Disease (HD) after high dose therapy and autologous Hematopoietic Stem Cell Transplantation (auto-HSCT) in a single center in Colombia.
Methods: One hundred four patients with relapsed or refractory HD were treated with auto-HSCT between 1994 and 2008. Clinical status previous to transplantation, and events as relapse or death were analyzed to establish 5 year Overall Survival (OS) and Event Free Survival (EFS).
Results: One hundred four patients have had 105 procedures (one patient with 2 auto-SCT). Thirty-five female and 69 male, 79 adults and 25 less than 16 years, with average age of 27.4 years (range 5 to 66 yrs). Forty-one patients (39,4%) with refractory disease, 21 with early relapse (20%) and 42 with late relapse (40,4%).

Clinical stage at diagnosis: I and IIA 24 patients (23%), IIB 28 patients (26.9%), IIIA 7 patients (6.7%), III B 21 patients (20%), stage IV 21 patients (20%) and (3 patients unknown). The source of cells was peripheral blood in 95 transplants (91.4%), bone marrow in 6 (5.7%) and combined in 2 procedures (1.9%) combined, (2 patients unknown).

The conditioning chemotherapy was BEAM in 56 transplants (53.3%), cyclophosphamyde-etoposide-melphalan in 26 (24.7%) and other protocols in 23 (21.9%) transplants. At the time of transplantation, 61 patients (58%) were in complete remission, 36 (34%) in partial remission and 5 (4.7%) with active disease.

Twenty nine patients had relapse, of them 11 are dead. Seven patients had non relapse mortality: 5 with infectious complications, 1 with colecistitis and 1 with graft failure. Two patients died for complications of a second neoplasm. The mortality in the first 100-days was 3% (3 patients with infectious complications). With a median of 971 days of follow-up (range 12 to 5587 days), 59 (56.7%) patients are in complete remission, 17 (16.3%) are alive after relapse, 21 (20.1%) have died and 7 (6.7%) were lost for follow-up.